Australian Coastal Ocean Radar Network (ACORN)

On the northern dunes above the Groyne is what looks like a sea container. However this is not just an ordinary sea container it is an Australian Coastal Ocean Radar Network station which uses land based high frequency radar to provide continuous mapping of sea-surface currents at six locations around the Australian coast, each location comprising two stations.

The station is measuring sea surface currents over an area of approx 150km by 150km of the Indian Ocean. This includes Rottnest Island (where the second station is situated) and the Perth Canyon.

The Perth Canyon has the highest marine biodiversity in the region, with whale and fish aggregations, and high primary and secondary productions which are controlled by the physical oceanographic processes. Combined with the dynamics of the Perth Canyon is the dominant Leeuwin Current which produces a wake on the leeward side of Rottnest Island. This is a topographically induced up-welling. The region is influenced by Swan River outflow, submarine groundwater discharges, and wastewater outfalls.

Data is transmitted to James Cook University in Townsville for processing and forwarding to the IMOS (Integrated Marine Observing System) data portal, where it can be assessed by researchers and the public. The radar systems monitor the seasonal, inter-annual and decadal variability of the Leeuwin Current and its eddy fields.

The Leeuwin Current system and its climate variability has crucial impacts on most of the local marine based industries, such as commercial and recreational fishing, defence, marine tourism and recreation, petroleum explorations and production, ship building, ports and shipping.

Photo-monitoring

NACC (Northern Agricultural Catchment Council) has teamed up with a number of coastal local governments and community volunteers to monitor over 90 coastal sites between Guilderton and Kalbarri. In the Guilderton area there are three sites. Volunteers take regular photos at these sites, which are then uploaded to an online database where they are monitored to record changes in the environment. Over time, these photo series become more and more valuable for recording changes such as beach erosion, vegetation regrowth and crop health.

If you wish to check out the changes in our coastline in the last three years go to the website below:

http://beachmonitoring.nacc.com.au/gallery/guildertonmoore-river-mouth

Map of the photo monitoring locations in Guilderton

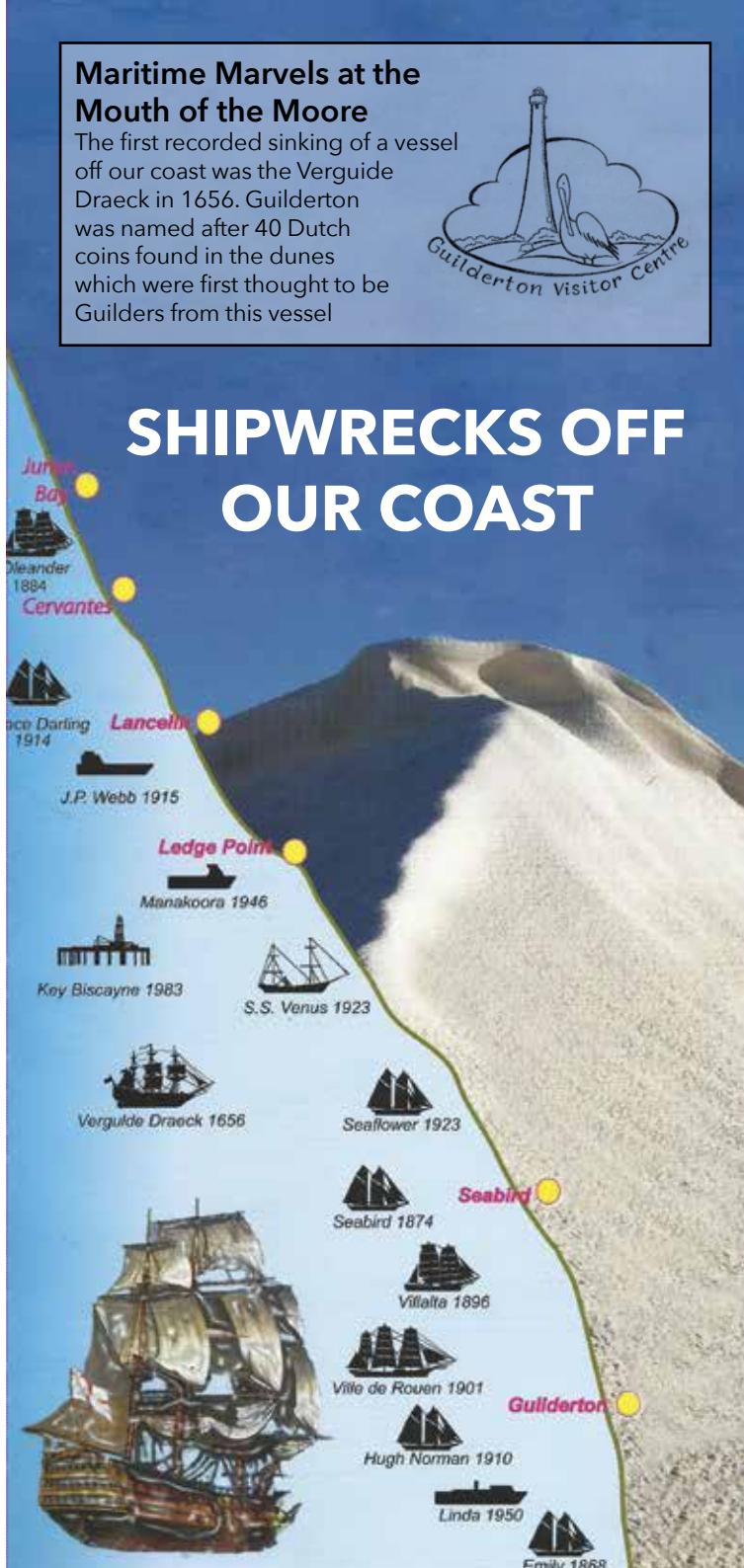
Further information on the Guilderton area can be found on our website www.guildertonwa.com.au

Maritime Marvels at the Mouth of the Moore

The first recorded sinking of a vessel off our coast was the Verguide Draeck in 1656. Guilderton was named after 40 Dutch coins found in the dunes which were first thought to be Guilders from this vessel

Guilderton Visitor Centre

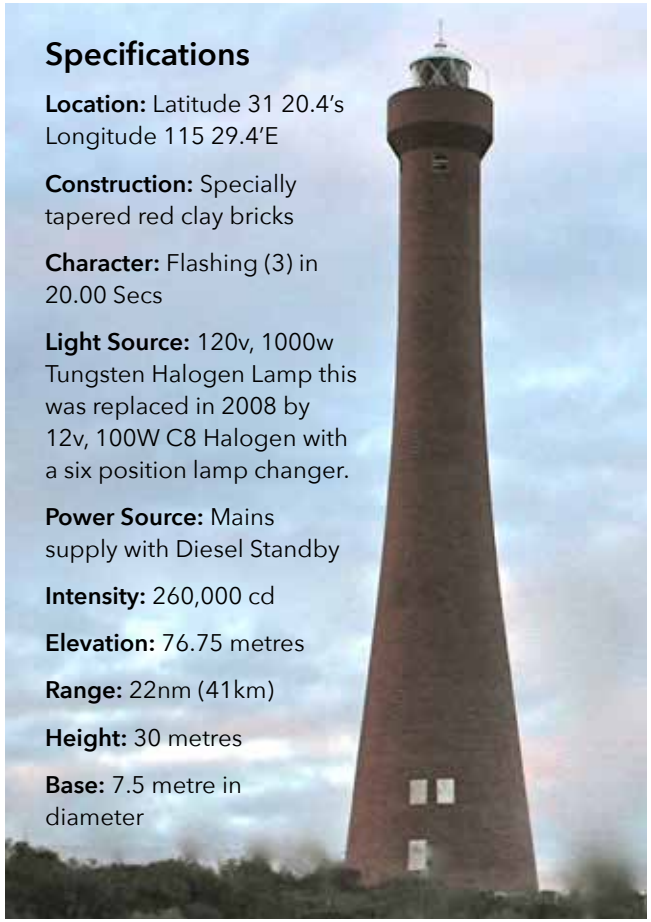
SHIPWRECKS OFF OUR COAST



Guilderton Lighthouse

The lighthouse was built to an award winning design first used in Troubridge Hill in SA. The design was computer generated and built using special wedge shaped bricks to create the tapered cylindrical form. It is aesthetically pleasing in shape and it is capable of resisting earthquakes and cyclonic gales. The Guilderton lighthouse is the only major navigation light between Fremantle and Jurien Bay, and is also the last to be built in WA.

The lighthouse was built in 1983 at Wreck Point at the cost of $240,000. It was built as an automatic marine beacon and commenced operation in December of that year.



Specifications

Location: Latitude 31 20.4's Longitude 115 29.4'E

Construction: Specially tapered red clay bricks

Character: Flashing (3) in 20.00 Secs

Light Source: 120v, 1000w Tungsten Halogen Lamp this was replaced in 2008 by 12v, 100W C8 Halogen with a six position lamp changer.

Power Source: Mains supply with Diesel Standby

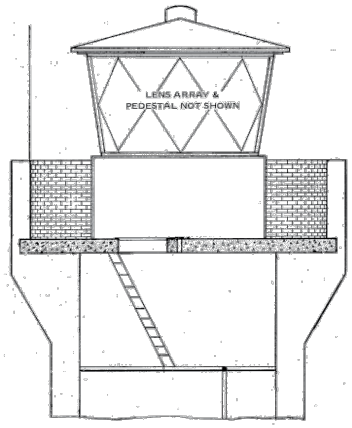
Intensity: 260,000 cd

Elevation: 76.75 metres

Range: 22nm (41km)

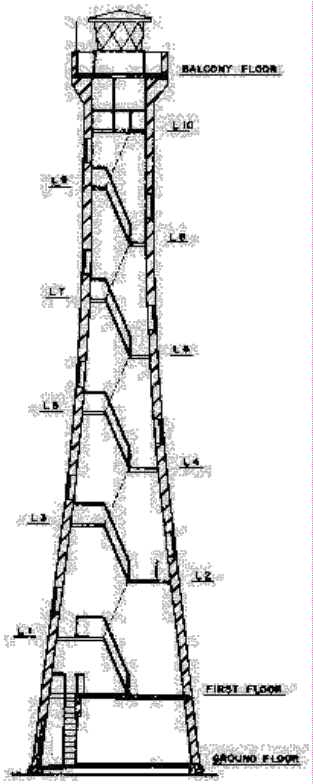
Height: 30 metres

Base: 7.5 metre in diameter

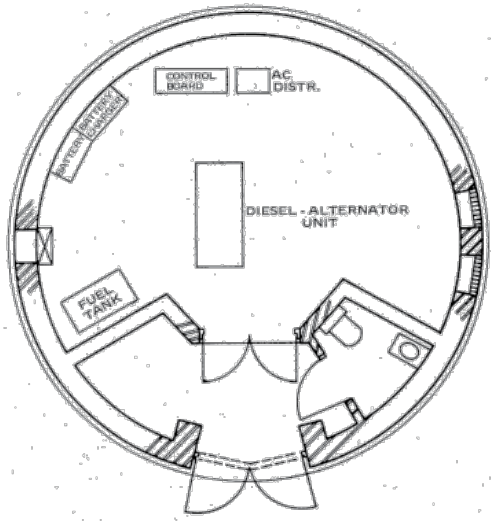


Lens Housing

LOCATION OF EQUIPMENT & SERVICES	
Balcony Floor	Lantern Room and Optics
Level 10	Equipment Room
First Floor	Storage Room
Ground Level	Engine Room and Wash Room



Crosscut



Base Floor Plan

The Lens

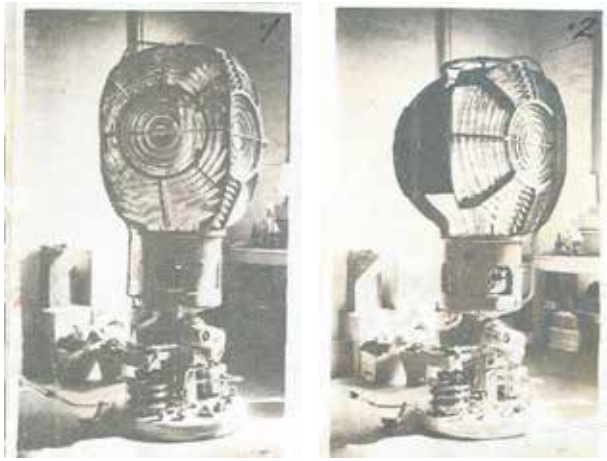
The original lens was a Triple Bullseye Fresnel Lens manufactured by AGA in Sweden in 1936. The company is better known today for their AGA cookers. Augustin-Jean Fresney (1799-1827) is best known as the inventor of the Fresnel lens, first adopted in lighthouses while he was a French commissioner of lighthouses.

Initially the lens was installed at the Hamelin Island Lighthouse WA from 1937 to 1967. It originally used acetylene gas for the light source and this was turned on and off automatically by a 'Sun Valve'. Its inventor, Gustaf Dalen, won the 1912 Nobel prize in physics for the design.

When Hamelin Island lighthouse was decommissioned, the lantern housing and lens had a second life when the Guilderton Lighthouse was built in 1983.

The lens was replaced in March 2008 for a more economical and efficient system and was loaned to the Community Association by the Australian Maritime Safety Authority.

The lens has an insurance value of $100,000.



On display in the main bar area of the Country Club